1.9
P69P

LIBRARY
RECEIVED
★ DEC 14 1940 ★
U.S. Department of Agriculture

THE PLANT DISEASE REPORTER

Issued By

Division of Mycology and Disease Survey

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

Supplement 126

THE REACTION OF SORGHUM VARIETIES AND HYBRIDS TO MILO DISEASE

December 1, 1940

The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

THE REACTION OF SORGHUM VARIETIES AND HYBRIDS TO MILO DISEASE[1/]

L. E. Melchers, Head of Department of Botany, Kansas Agricultural Experiment Station and Alvin E. Lowe, Assistant Agronomist, Garden City Branch, Kansas Agricultural Experiment Station.

Plant Disease Reporter
Supplement 126 December 1, 1940.

Milo disease, also known as root, crown and shoot rot of milo and Pythium root rot of milo (1, 2) is of increasing economic importance in those states where it occurs. The symptoms, method of spread, and control have been described in the literature (1, 2, 3). This disease is spreading to new locations and over wide areas where milo and milo hybrids are extensively grown.

Investigators engaged in sorghum improvement should be interested in having a record of the known reaction of sorghum varieties, selections, and hybrid lines to the disease. Such information should be particularly valuable to sorghum breeders desiring to use resistant parental material in crosses.

For this reason the authors believe it is useful to publish a list of the available information on the reaction of sorghums to the milo disease. The accompanying list of varieties, selections, and hybrids are those which have actually been tested on infested soils in Kansas either in field or greenhouse sowings. It is possible that a few additional varieties or hybrids might be added to the list from sources other than Kansas, but the list is believed to be nearly complete without such additions. It contains all those sorghums which were originally tested at Garden City, Kansas, by Wagner (4), in addition to a large number which have been tested by the writers in recent years.

It has been learned since the publication of Wagner's paper (4), that no variety of sorghum is immune; therefore, Wagner's classification has not been followed. In the present paper the groups resistant, susceptible, and segregating are the terms used in the classification. The two latter terms need no explanation. The term "resistant," as herein used, means that a variety will produce a normal crop in infested soil and is definitely tolerant to the disease with no measurable injury to the grain or forage. When parts of the underground system of a resistant plant are examined, however, infected areas may be found. For this reason, such varieties have not been classified as immune.

All varieties classed as resistant have maintained their resistance over a period of years. Physiologic races of the organisms concerned so far have not changed the reaction of these varieties, although it is possible that in the future such a condition may arise.

1/ Contribution No. 403, Department of Botany, Kansas Agricultural Experiment Station, and No. 69 Office of Director, Kansas Agricultural Experiment Station.

When varieties, selections, or hybrids are planted in infested soils either in the field or in the greenhouse, the disease reaction is sharp and it is not difficult to place them properly into one of the three classes, resistant, susceptible, or segregating.

It should be remembered that similar crosses or other strains of sorghum varieties which occur elsewhere upon testing may not have the same classifications as those indicated in this report. The observed reaction of only the varieties and strains that have been studied are given in this report.

It can be said in general that most of the milos and many of the milo and Darso hybrids are susceptible or segregating. There are a few exceptions such as Kalo, Early Kalo, Manko Maize, and some unnamed hybrids. This apparently is owing to chance selection of resistant lines by the agronomists responsible for the development of these varieties. Varieties of feterita, sorgo, kafir, Sudan grass, Durra, broomcorn, and other miscellaneous sorghums are resistant as shown in the accompanying list.

In addition to the listings above, several hundred individual resistant selections and strains of Sconer, Colby milo, darso, Pygmy milo, Day, Beaver, Wheatland and Dwarf Yellow milo are not included. Over a hundred selections and strains of sorghums from other experiment stations that have not been considered sufficiently important to be assigned identification numbers also are omitted from this report.

Table 1. Reaction of sorghums to milo disease, Garden City and Manhattan, Kansas, 1930-1939.

Variety	Accession Number (a) 2/	Source of seed
	Susceptible	
Backcross x Kalo	H.C. 391	Hays, Kansas
Beaver	C.I. 871	Woodward, Oklahoma
Blackhull kafir x Darso	S.A. 56-59-60	Chillicothe, Texas
Blackhull kafir x Darso	S.A. 61	Chillicothe, Texas
Blackhull kafir x Darso	S.A. 62	Chillicothe, Texas
Colby milo (Dwarf Yellow milo x Early White milo)	Colby 31	Colby Branch Experiment Station at
Cream milo	K.B. 2569	Manhattan, Kansas
Custer Sel.	C.I. 919	Hays, Kansas
Darso	C.I. 615	Woodward, Oklahoma
Darso x Fargo	A-30-1	Goodwell, Oklahoma

2/ For explanation see end of table.

Variety	Accession Number	Source of seed
	Susceptible	
Dawn kafir x Darso	K.B. 37221	Manhattan, Kansas
Dawn kafir x Darso	Wdw. 52-23	Woodward, Oklahoma
Day milo	C.I. 959	Woodward, Oklahoma
Desert Bishop	C.I. 870	Lawton, Oklahoma
Double Dwarf Yellow milo	C.I. 868	Hays, Kansas
Durra x Dwarf Yellow milo	Wdw. 696x332	Woodward, Oklahoma
Dwarf Early Yellow milo	F.C. 8925	Manhattan, Kansas
Dwarf White milo	F.C. 8927	Manhattan, Kansas
Dwarf White milo x Blackhull kafir	La. 3268	Lawton, Oklahoma
Dwarf Yellow milo	C.I. 332	Garden City, Kansas
Dwarf Yellow milo	C.I. 2313	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S. 25243-27	Manhattan, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 388	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 3310	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 3311	Hays, Kansas
Dwarf Yellow milo x Early White milo	Colby 10	Colby, Kansas
Dwarf Yellow milo x Early White milo	Colby 19	Colby, Kansas
Dwarf Yellow milo x Early White milo	Colby 29	Colby, Kansas
Dwarf Yellow milo x Early White milo	Colby 32	Colby, Kansas
Dwarf Yellow milo x Hegari	Wdw. 13-10	Woodward, Oklahoma
Dwarf Yellow milo x (Pink kafir x milo)	H.C. 311	Hays, Kansas
Early White milo	C.I. 480	Hays, Kansas
Early White milo x Dwarf Yellow milo	C.I. 962	Dalhart, Texas
Early Yellow milo	C.I. 868	Hays, Kansas
Early Yellow milo	T.S. 21195	Lubbock, Texas
Early Yellow milo No. 8	--------	Manhattan, Kansas
Extra Dwarf White milo	T.S. 13352	Lawton, Oklahoma
Extra Early Sumac sorgo	--------	Dalhart, Texas
Kafir x Dwarf Yellow milo	C.I. 897	Woodward, Oklahoma
Kafir x Dwarf Yellow milo	C.I. 898	Woodward, Oklahoma
Kafir x Dwarf Yellow milo	C.I. 960	Woodward, Oklahoma

Variety	Accession Number	Source of Seed
	Susceptible	
Kafir x Dwarf Yellow milo	C.I. 961	Woodward, Oklahoma
Kafir x Dwarf Yellow milo	Sel. 27317	Manhattan, Kansas
Kafir x Milo 36-1-1	C.I. 895	Woodward, Oklahoma
Kafir x Milo 26-4-1	C.I. 896	Woodward, Oklahoma
Kafir x Milo 338	Wdw. 26-4-1	Manhattan, Kansas
Kansas Orange x Dwarf Yellow milo	Sel. 29247	Manhattan, Kansas
(Milo x kafir) x milo	S.A. 40	Chillicothe, Texas
(Milo x kafir) x milo	S.A. 41	Chillicothe, Texas
Pygmy milo	C.I. 1010	Woodward, Oklahoma
Quadroon (Milo hybrid 5, T.S.22631)	F.C. 16181	Hays, Kansas
Sharon kafir x Darso	Sel. 31-14	Woodward, Oklahoma
Sharon kafir x Darso	La. 32-85	Lawton, Oklahoma
Sharon kafir x Darso	La. 32-185	Dalhart, Texas
Sharon kafir x Dwarf Yellow milo	Man. 307-4	Manhattan, Kansas
Sooner milo	C.I. 917	Woodward, Oklahoma
Standard White milo	C.I. 352	Manhattan, Kansas
Standard Yellow milo	C.I. 234	Manhattan, Kansas
Sudan corn	K.B. 31118	Manhattan, Kansas
Wheatland	C.I. 918	Woodward, Oklahoma
Wheatland Sel.	K.B. 36359	Manhattan, Kansas
Wheatland x Dwarf Yellow milo	Wdw. 1-2	Woodward, Oklahoma
White Darso	Sel. 30110	Manhattan, Kansas
White Darso	Ks. Sel. 33378	Woodward, Oklahoma
White Darso (Goodwell)	D-48B, 1938	Manhattan, Kansas
White Wheatland Sel.	1936 row 233-3	Manhattan, Kansas
	Segregating	
Custer	C.I. 919	Hays, Kansas
Dawn kafir x Wheatland	H.C. 386	Hays, Kansas
Dwarf Kalo	H.C. 313	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 337	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 344	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 346	Hays, Kansas

Variety	Accession Number	Sources of Seed
	Segregating	
Dwarf Yellow milo x Dwarf Freed	H.C. 347	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 3410	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 3411	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 3414	Hays, Kansas
Dwarf Yellow milo x kafir	C.I. 903	Hays, Kansas
Sharon kafir x Dwarf Yellow milo	Wdw. 813x332(F_2)	Woodward, Oklahoma
White Darso (Stillwater strain)	Haston's Sel.	Woodward, Oklahoma
	Resistant	
ACl Sorghum Sel.	C.I. 1106	Akron, Colorado
African millet x feterita	F.C. 9161	Hays, Kansas
Ajax	C.I. 968	Manhattan, Kansas
Atlas x Early Sumac	Hays 30-14	Manhattan, Kansas
Atlas x Early Sumac	F.C. 9165	Hays, Kansas
Atlas x Early Sumac	H.C. 381	Hays, Kansas
Atlas x Early Sumac	H.C. 382	Hays, Kansas
Atlas sorgo	C.I. 899	Manhattan, Kansas
Beaver Sel. (from G.C.C.31)	GC 38278	Garden City, Kansas
Bishop	C.I. 814	Woodward, Oklahoma
Blackhull kafir x Sumac	S.A. 119	Chillicothe, Texas
(Blackhull kafir x Sumac) x Sumac	S.A. 107	Chillicothe, Texas
(Blackhull kafir x Sumac) x Sumac	S.A. 108	Chillicothe, Texas
Black Spanish broomcorn	K.B. 30104	Manhattan, Kansas
Brown Durra	C.I. 935	Manhattan, Kansas
Cheyenne	F.C. 9170	Garden City, Kansas
Chiltex	C.I. 874	Woodward, Oklahoma
Chiltex x Hegari	S.A. 19	Chillicothe, Texas
(Chiltex x Hegari) x Chiltex	S.A. 85	Chillicothe, Texas
Club	C.I. 901	Hays, Kansas
Club Sel.	H.C. 331	Hays, Kansas
Club Sel.	H.C. 335	Hays, Kansas
Club Sel.	H.C. 3432	Hays, Kansas
Club Sel.	K.B. 33327	Manhattan, Kansas

Variety	Accession Number	Sources of Seed
	Resistant	
Club x Dwarf Freed	H.C. 3424	Hays, Kansas
Club x Dwarf Freed	H.C. 3426	Hays, Kansas
Club x Western Blackhull	H.C. 389	Hays, Kansas
Club x (Wheatland x milo)	H.C. 34442	Hays, Kansas
Club x (Wheatland x milo)	H.C. 34446	Hays, Kansas
Colby milo (b)	---------	Manhattan, Kansas
Custer Sel.	G.C. 301	Garden City, Kansas
Dakota Amber sorgo	S.D. 39-30-S	Brookings, South Dakota
Darso Sel.	K.B. 39122	Manhattan, Kansas
Darso Sel.	K.B. 39123	Manhattan, Kansas
Darso Sel.	K.B. 39125	Manhattan, Kansas
Dawn kafir x Custer	H.C. 395	Hays, Kansas
Dawn kafir x Darso	Wdw. 52-26	Dalhart, Texas
Dawn kafir x Darso	Wdw. 52-29	Woodward, Oklahoma
Dawn kafir Sel.	C.I. 904	Hays, Kansas
Dawn kafir x (Kansas Orange x milo)	K.B. 33315	Manhattan, Kansas
Day milo Sel. (from G.C.301)	GC 38311	Garden City, Kansas
Day milo Sel.	K.B. 37234	Manhattan, Kansas
Day milo Sel.	K.B. 37235	Manhattan, Kansas
Day milo Sel.	K.B. 37236	Manhattan, Kansas
Day milo Sel.	K.B. 37237	Manhattan, Kansas
Day milo Sel.	K.B. 37238	Manhattan, Kansas
Double Dwarf Darlo	C.I. 1110	Davis, California
Double Dwarf milo No.1	---------	U.S.D.A. Washington,D.C.
Double Dwarf milo No. 2	---------	U.S.D.A. Washington,D.C.
Double Dwarf milo No. 3	---------	U.S.D.A. Washington,D.C.
Double Dwarf milo. No.4	---------	U.S.D.A. Washington,D.C.
Double Dwarf milo No.5	---------	U.S.D.A. Washington,D.C.
Dwarf Bishop	Wdw. 10-1-29	Woodward, Oklahoma
Dwarf Club	H.C. 334	Hays, Kansas
Dwarf Club	H.C. 380	Hays, Kansas
Dwarf feterita	Wdw. 182-867-2	Woodward, Oklahoma
Dwarf feterita	Wdw. 182-D. Fet.#3-11	Woodward, Oklahoma
Dwarf feterita	Wdw. 182-D. Fet.#3-13	Woodward, Oklahoma
Dwarf feterita	Wdw. 623-867-4	Woodward, Oklahoma
Dwarf feterita No. 6	C.I. 964	Woodward, Oklahoma
Dwarf feterita x Dwarf Freed	H.C. 336	Hays, Kansas
Dwarf feterita x (milo x kafir)	H.C. 312	Hays, Kansas
Dwarf Freed	C.I. 971	Hays, Kansas
Dwarf Hydro	1937 row 323-9	Manhattan, Kansas
Dwarf Hydro Sel.	38M416	Manhattan, Kansas

Variety	Accession Number	Sources of Seed
	Resistant	
Dwarf Hydro Sel.	38M421	Manhattan, Kansas
Dwarf kafir	Wdw. 5-12	Woodward, Oklahoma
Dwarf Kafir	Wdw. 24-43	Woodward, Oklahoma
Dwarf Shantung kaoliang	C.I. 293	Manhattan, Kansas
Dwarf White milo x Blackhull	38M426	Manhattan, Kansas
Dwarf White milo x Blackhull	35M215	Manhattan, Kansas
Dwarf White milo x Hegari	H.C. 282	Lawton, Oklahoma
Dwarf White milo Sel.	No. 36	Davis, California
Dwarf White milo Sel.	No. 38	Davis, California
Dwarf White milo Sel.	No. 42	Davis, California
Dwarf Yellow milo Sel.	G.C.C. 21	Garden City, Kansas
Dwarf Yellow milo Sel.	T.S. 25243-2	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S. 25243-7	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S.25243-12	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S. 25243-17	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S.25243-22	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S.25243-24	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S.25243-32	College Station, Texas
Dwarf Yellow milo Sel.	T.S.25243-33	College Station, Texas
Dwarf Yellow milo Sel.	T.S.25243-34	College Station, Texas
Dwarf Yellow milo Sel.	T.S.25243-35	College Station, Texas
Dwarf Yellow milo Sel.	T.S. 25243-36	College Station, Texas
Dwarf Yellow milo Sel.	T.S. 25243-37	College Station, Texas
Dwarf Yellow milo Sel.	T.S. 25243-38	College Station, Texas
Dwarf Yellow milo Sel.	T.S. 25243-39	College Station, Texas
Dwarf Yellow milo Sel.	T.S. 25243-40	College Station, Texas
Dwarf Yellow milo Sel.	T.S. 25243-41	College Station, Texas
Dwarf Yellow milo Sel.	T.S. 25243-48	Manhattan, Kansas
Dwarf Yellow milo Sel.	T.S. 25243-276	Chillicothe, Texas
Dwarf Yellow milo Sel.	T.S. 25243-332	Lubbock, Texas
Dwarf Yellow milo Sel. (c)	T.S. 25243-338	Lubbock, Texas
Dwarf Yellow milo Sel.	T.S. 25243-516	Chillicothe, Texas
Dwarf Yellow milo Sel.	T.S. 25243-560	Chillicothe, Texas
Dwarf Yellow milo x Dwarf Freed	H.C. 303	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 338	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 339	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 341	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 345	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 349	Hays, Kansas
Dwarf Yellow milo x Dwarf Freed	H.C. 399	Hays, Kansas
Dwarf Yellow milo x Hegari (Sel. of Wdw. 13-10)	G.C. 32-1	Garden City, Kansas
Dwarf Yellow milo x Hegari	Wdw. 14-11	Woodward, Oklahoma
Dwarf Yellow milo x Pink kafir Sel. (from C.I. 903)	G.C. 301	Garden City, Kansas

Variety	Accession Number	Sources of Seed
	Resistant	
Early Kalo	C.I. 1009	Hays, Kansas
Early Red (Red x Sunrise)	51-5S.	Manhattan, Kansas
Early Sumac sorgo	F.C. 6611	Hays, Kansas
Early White Durra	S.P.I. 57045	Woodward, Oklahoma
Eason kafir	T.S. 21193	Lubbock, Texas
Extra Dwarf feterita	T.S. 6312	Lubbock, Texas
Extra Early Pink	C.I. 1107	Akron, Colorado
Extra Early Sumac sorgo Sel. (from Dalhart Strain)	GC 381037	Garden City, Kansas
Fargo	C.I. 809	Woodward, Oklahoma
Feterita	C.I. 182	Manhattan, Kansas
Feterita x Black Spanish broomcorn	K.B. 36403	Manhattan, Kansas
Feterita x Dwarf Shantung kaoliang No. 1	C.I. 867	Woodward, Oklahoma
Feterita x Early Sumac	K.B. 36400	Manhattan, Kansas
(Feterita x kafir) x kafir	F.C. 8951	Woodward, Oklahoma
Feterita x Smith	H.C. 312	Hays, Kansas
Finney milo (Dwarf Yellow milo Sel.)	C.I. 1089	Garden City, Kansas
Fremont	C.I. 1108	Akron, Colorado
Greeley (Tribune 12)	C.I. 972	Tribune, Kansas
Grohoma	C.I. 920	Manhattan, Kansas
Hegari	C.I. 620	Hays, Kansas
Highland kafir	C.I. 1105	Akron, Colorado
Hybrid Dwarf feterita	K.B.32316	Manhattan, Kansas
Hydro kafir	C.I. 1066	Lawton, Oklahoma
Improved Coes	C.I. 1104	Akron, Colorado
Jerusalem Corn	K.B. 31119	Manhattan, Kansas
Kafir-cane	G.C. 391045	Garden City, Kansas
Kafir x Dwarf Yellow milo	C.I. 970	Woodward, Oklahoma
Kafir x Dwarf Yellow milo	Wdw. 8-2-6	Woodward, Oklahoma
Kafir x feterita	K.B. 2510	Manhattan, Kansas
Kafir x milo	Wdw. 38-1-2-1	Woodward, Oklahoma
Kalo	C.I. 902	Hays, Kansas
Kalo Sel.	H.C. 3416	Hays, Kansas
Kalo Sel.	H.C. 3421	Hays, Kansas
Keiskama	South Africa	Manhattan, Kansas
Klerksdorp No. 2	South Africa	Manhattan, Kansas
Leoti sorgo	F.C. 6610	Manhattan, Kansas
Leoti sorgo x feterita	H.C. 3429	Hays, Kansas
Leoti sorgo x feterita	H.C. 387	Hays, Kansas
Manchu Brown kaoliang	C.I. 171	Manhattan, Kansas
Manko	F.C. 8991	Lubbock, Texas

Variety	Accession Number	Sources of Seed
	Resistant	
Milo x kafir (from Sel. 27317)	GC 391332	Garden City, Kansas
Modoc	C.I. 905	Manhattan, Kansas
Modoc Sel.	H.C. 383	Hays, Kansas
Oosthuizen	South-Africa	Manhattan, Kansas
Pierce kaferita	K.B. 27101	Manhattan, Kansas
Pink Freed No. 14	C.I. 973	Tribune, Kansas
Pink Freed No. 36	C.I. 974	Tribune, Kansas
Pink kafir	C.I. 473	Manhattan, Kansas
Premo	C.I. 873	Manhattan, Kansas
Pretoria Pink	South Africa	Manhattan, Kansas
Pygmy milo Sel.	K.B. 39110	Manhattan, Kansas
Pygmy milo Sel.	K.B. 39111	Manhattan, Kansas
Pygmy milo Sel.	K.B. 39112	Manhattan, Kansas
Pygmy milo Sel.	K.B. 39113	Manhattan, Kansas
Pygmy milo Sel.	K.B. 39114	Manhattan, Kansas
Pygmy milo Sel.	K.B. 39115	Manhattan, Kansas
Pygmy milo Sel.	K.B. 39116	Manhattan, Kansas
Red Amber x feterita	Sel. 2473	Manhattan, Kansas
Red Amber sorgo	F.C. 7038	Manhattan, Kansas
Red Durra	--------	Manhattan, Kansas
Red kafir	--------	Garden City, Kansas
Red kafir Sel.	37M133	Manhattan, Kansas
Red kafir Sel.	37M150	Manhattan, Kansas
Red x sorgo	F.C. 16185	Chillicothe, Texas
Reed kafir	C.I. 628	Woodward, Oklahoma
Sapling (G.C. "Honey")	---------	Garden City, Kansas
Scarborough broomcorn	K.B.30107	Manhattan, Kansas
Sedan Red kafir	C.I. 1103	Dalhart, Texas
Shallu	K.B. 32373	Manhattan, Kansas
Sharon kafir x Darso	Wdw. 47-5	Dalhart, Texas
Sharon kafir x Darso	Wdw. 47-9	Dalhart, Texas
Sharon kafir x Darso	Wdw. 48-12	Dalhart, Texas
Sooner milo Sel. (d)	GC 3858	Garden City, Kansas
Spur feterita	C.I. 623	Woodward, Oklahoma
Standard Sumac sorgo	F.C. 1712	Garden City, Kansas
Sudan grass	--------	Garden City, Kansas
Sugar Drip sorgo	--------	Manhattan, Kansas
Sumac x feterita	F.C. 9164	Hays, Kansas
Sumac x feterita	F.C. 9165	Hays, Kansas
Sumac x feterita	F.C. 9163	Hays, Kansas
Sumac x White African	F.C. 16187	Hays, Kansas
Sunrise kafir	C.I. 472	Garden City, Kansas

Variety	Accession Number	Sources of Seed
	Resistant	
Tricker Mixture	C.I. 1112	Garden City, Kansas
Waconia Orange sorgo	C.I. 1113	Garden City, Kansas
Weskan	F.C. 9126	Manhattan, Kansas
Weskan x Greeley	H.C. 384	Hays, Kansas
Western Atlas	K.B. 32308	Manhattan, Kansas
Western Blackhull kafir	C.I. 906	Hays, Kansas
Wheatland Sel. (From G.C.C.41)	GC 38288	Garden City, Kansas
Wheatland Sel. (From G.C.C.42)	GC 38291	Garden City, Kansas
Wheatland Sel. (From G.C.C.43)	GC 38296	Garden City, Kansas
White Custer	H.C. 305	Hays, Kansas
White Darso	Wdw. No. 101	Woodward, Oklahoma
White Durra	C.I. 81	Manhattan, Kansas
White Durra (California)	(Standard)	Woodward, Oklahoma
White Sumac x Colliers	Wdw. 8-25	Woodward, Oklahoma
White Yolo	K.B. 2525	Manhattan, Kansas
Wintersome	P.E.I. 133090	Manhattan, Kansas
Witchweed Resistant White	South Africa	Manhattan, Kansas
Wonder	C.I. 872	Garden City, Kansas
Yellow Darso	Wdw. 36-12	Woodward, Oklahoma
Yellow Sumac sorgo	Wdw. 97-14	Woodward, Oklahoma

(a) C.I. refers to accession number of Division of Cereal Crops and Diseases, U.S.D.A.
P.E.I. refers to accession number of the Plant Exploration Introduction.
T.S. refers to Texas Selection Number.
F.C. refers to accession number of Division of Forage Crops and Diseases, U.S.D.A.
Sel. refers to Selection number.
S.P.I. refers to accession number of Division of Plant Exploration and Introduction, U.S.D.A.
Wdw. refers to Woodward, Oklahoma.
Man. refers to Manhattan, Kansas.
K.B. refers to Kansas Botany, K.S.C., Manhattan, Kansas.
H.C. refers to Fort Hays Branch Experiment Station cereal number.
S.A. refers to Sorghum accession number at Chillicothe and Lubbock, Texas.
G.C. refers to Garden City Branch Experiment Station cereal number.
La. refers to Lawton, Oklahoma, Experiment Station number.

(b) A number of resistant selections of Colby milo have been made at Manhattan and Garden City. These are not listed separately.

(c) This selection was named "Texas milo" and distributed to farmers in the spring of 1940 by the Texas Experiment Station.

(d) A large number of Sooner selections that are resistant have been made at Manhattan and Garden City. The number is too large to list here.

LITERATURE CITED

1. Elliott, Charlotte, F. A. Wagner, and L. E. Melchers. Root, crown and shoot rot of milo. Phytopath. 22: 265-267. 1932.

2. _____, L. E. Melchers, C.L. Lefebvre, and F. A. Wagner. Pythium root rot of milo. Journ. Agr. Res. 54: 797-834. 1937.

3. Kendrick, James B. and Fred N. Briggs. Pythium root rot of milo and the development of resistant varieties. California Agr. Exp. Stat. Bul. 629. 1939.

4. Wagner, F. A. Reaction of sorghums to the root, crown and shoot rot of milo. Journ. Amer. Soc. Agron. 28: 643-654. 1936.